

May 21, 2015

## Dr. Kevin W. Hamlen

Associate Professor  
Department of Computer Science  
The University of Texas at Dallas

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Web page: <http://www.utdallas.edu/~hamlen>

### Educational History:

|       |      |                            |                                            |
|-------|------|----------------------------|--------------------------------------------|
| Ph.D. | 2006 | Cornell University         | Computer Science                           |
| M.S.  | 2002 | Cornell University         | Computer Science                           |
| B.S.  | 1998 | Carnegie Mellon University | Computer Science and Mathematical Sciences |

*Security Policy Enforcement by Program-rewriting*

Ph.D. Dissertation

Computer Science Department, Cornell University

Advisors: Greg Morrisett and Fred B. Schneider

*Proof-Carrying Code for x86 Architectures*

Senior Undergraduate Honors Thesis

School of Computer Science, Carnegie Mellon University

Advisor: Peter Lee

### Employment History:

Associate Professor (with tenure)

Department of Computer Science, The University of Texas at Dallas

September 2012 – present

Assistant Professor

Department of Computer Science, The University of Texas at Dallas

August 2006 – August 2012

Research and Teaching Assistant

Computer Science Department, Cornell University

September 1998 – August 2006

Research Intern  
Microsoft Research, Cambridge, UK  
September 2002 – December 2002

Technical Consultant  
Microsoft Research, Redmond, WA  
June 2001 – August 2001

### **Professional recognitions and honors:**

NYU-Poly CSAW Best Applied Security Paper of the Year Award, 2nd place, 2014  
Metroplex Technology Business Council Tech Titan Technology Inventor, Finalist (final four), 2013  
Outstanding Teaching Award, Erik Jonsson School of Engineering and Computer Science, The University of Texas at Dallas, 2013  
Best Student Paper Award, Annual Computer Security Applications Conference (ACSAC), 2012  
NYU-Poly AT&T Best Applied Security Paper of the Year Award, 2nd place, 2012  
Faculty Research Award, Erik Jonsson School of Engineering and Computer Science, The University of Texas at Dallas, 2012  
Best Paper Award, IEEE International Conference on Tools with Artificial Intelligence (ICTAI), Special Session on Stream Data Mining, 2011  
CAREER Award, National Science Foundation, 2011  
Young Investigator Program (YIP) Award, U.S. Air Force Office of Scientific Research, 2008  
Ph.D. Fellowship Award, Intel Foundation, 2004  
Allen Newell Award for Excellence in Undergraduate Research, Carnegie Mellon University, 1998  
Phi Kappa Phi Honor Society, Carnegie Mellon University, 1998  
Phi Beta Kappa Honor Society, Carnegie Mellon University, 1998  
Graduated *summa cum laude* (3rd in class), Carnegie Mellon University, 1998

### **Professional memberships:**

Institute of Electrical and Electronics Engineers (IEEE), 2010–present  
Association of Computing Machinery (ACM), 2008–present

### **Selected Invited Talks:**

*Fog of War: Clouds, Software Hardening, and the Art of Cyber Deception*, Invited Speaker, Secure Cloud Computing and Storage Workshop, Hariri Institute, Boston University / Massachusetts Institute of Technology Lincoln Lab Cybersecurity Workshop Series, 5/8/2015  
*Mutants, Zombies, and Frankenstein Monsters: Taming the Menagerie of Software Cyber Security Threats*, Invited Computer Science Colloquium Speaker, Virginia Commonwealth University, 4/24/2015  
*The Search for a Science of Software Security*, Invited Lecture, Homeland Security and Emergency Preparedness, L. Douglas Wilder School of Government and Public Affairs, Virginia Commonwealth University, 4/23/2015

## Grants awarded:

*Automated, Binary Evidence-based Attribution of Software Attacks*

PI: Kevin Hamlen; Co-PIs: Latifur Khan, Zhiqiang Lin

U.S. Air Force Office of Scientific Research (AFOSR)

7/1/14–6/30/17, \$613K

*UTD SFS Renewal: Growing a Cybersecurity Community through SFS Scholarship Program at UTD*

PI: Kamil Sarac; Co-PIs: Kevin Hamlen, Alvaro Cardenas, Zhiqiang Lin, Bhavani Thuraisingham

National Science Foundation (NSF)

9/1/14–8/31/19, \$3.95M

*Binary Retrofitting of Untrusted Software Components for Secure Software Complexity Reduction*

PI: Kevin Hamlen

Office of Naval Research (ONR)

11/1/13–10/31/16, \$593K

*Metamorphic Extensions to Frankenstein Malware for Defensive Testing*

PI: Kevin Hamlen; Co-PIs: Latifur Khan, Zhiqiang Lin

Raytheon Company (IUCRC Project)

8/12/13–8/11/15, \$70K

TWC: Medium: Collaborative Research: *Policy Compliant Integration of Linked Data*

PI: Murat Kantarcioglu; Co-PIs: Kevin Hamlen, Latifur Khan

National Science Foundation (NSF)

9/1/12–8/31/15, \$1.2M total (\$400K for UTD)

MRI: *Development of an Instrument for Assured Cloud Computing*

PI: Latifur Khan; Co-PIs: Kevin Hamlen, Murat Kantarcioglu

National Science Foundation (NSF)

10/1/12–9/30/15, \$300K

*Semantic Approach to Behavior-based IDS and its Applications*

PI: Bhavani Thuraisingham; Co-PIs: Latifur Khan, Zhiqiang Lin, Kevin Hamlen

U.S. Air Force Office of Scientific Research (AFOSR)

4/1/12–3/31/16, \$2.2M total (\$966K for UTD)

DUE: *Capacity Building for Assured Cloud Computing*

PI: Bhavani Thuraisingham; Co-PIs: Latifur Khan, Kamil Sarac, Murat Kantarcioglu, Kevin Hamlen

National Science Foundation (NSF)

9/15/11–8/31/14, \$265K

TC: Medium: Collaborative Research: *Securing Web Advertisements: Fixing the Short-term Crisis and Addressing Long-term Challenges*

PI: Kevin Hamlen

National Science Foundation (NSF)

9/1/11–8/31/15, \$1.2M total (\$527K for UTD)

CAREER: *Language-based Security for Polymorphic Malware Protection*

PI: Kevin Hamlen

National Science Foundation (NSF)

8/1/11–7/31/16, \$504K

*Adaptive Malware Detection over Evolving Malwares: Attacks and Defenses*

PI: Latifur Khan; Co-PIs: Kevin Hamlen, Bhavani Thuraisingham

U.S. Army

9/1/11–9/30/12, \$350K

Federal Cyber Service: *Scholarship for Service Program at UTD*

PI: Kamil Sarac; Co-PIs: Kevin Hamlen, Murat Kantarcioglu, Edwin Sha, Bhavani Thuraisingham

National Science Foundation (NSF)

9/1/10–8/31/14, \$1.7M

*Reactively Adaptive Malware: Attacks and Defenses*

PI: Kevin Hamlen; Co-PI: Latifur Khan

U.S. Air Force Office of Scientific Research (AFOSR)

3/1/10–2/28/14, \$450K

EAGER: *Secure Peer-to-peer Data Management*

PI: Kevin Hamlen; Co-PI: Bhavani Thuraisingham

National Science Foundation (NSF)

9/15/09–8/31/11, \$80K

IASP: *Information Assurance Education at UTD*

PI: Kevin Hamlen

U.S. Department of Defense (DoD)

9/1/08–8/31/09, \$42K

YIP: *Automated, Certified Program-rewriting for Software Security Enforcement*

PI: Kevin Hamlen

U.S. Air Force Office of Scientific Research (AFOSR)

1/1/08–11/30/11, \$280K

## **Achievements in Original Investigation:**

### **Refereed conference & workshop publications:**

Frederico Araujo and **Kevin W. Hamlen**. Compiler-instrumented, Dynamic Secret-Redaction of Legacy Processes for Attacker Deception. In *Proceedings of the 24th USENIX Security Symposium*. Washington, D.C. August 2015, forthcoming.

Vishwath Mohan, Per Larsen, Stefan Brunthaler, **Kevin W. Hamlen**, and Michael Franz. Opaque Control-Flow Integrity. In *Proceedings of the 22nd Network and Distributed System Security Symposium (NDSS)*. San Diego, California. February 2015.

- Frederico Araujo, **Kevin W. Hamlen**, Sebastian Biedermann, and Stefan Katzenbeisser. From Patches to Honey-Patches: Lightweight Attacker Misdirection, Deception, and Disinformation. In *Proceedings of the 21st ACM Conference on Computer and Communications Security (CCS)*, pp. 942–953. Scottsdale, Arizona. November 2014. [acceptance rate: 19.5%] [NYU-Poly CSAW Best Applied Security Paper of the Year, 2nd place, 2014]
- Huseyin Ulusoy, Murat Kantarcioglu, Erman Pattuk, and **Kevin W. Hamlen**. Vigiles: Fine-grained Access Control for MapReduce Systems. In *Proceedings of the 2nd IEEE International Congress on Big Data (BigData)*, pp. 40–47. Anchorage, Alaska. June 2014. [acceptance rate: 19%]
- Richard Wartell, Yan Zhou, **Kevin W. Hamlen**, and Murat Kantarcioglu. Shingled Graph Disassembly: Finding the Undecidable Path. In *Proceedings of the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, pp. 273–285. Tainan, Taiwan. May 2014. [acceptance rate: 16.4%]
- Safwan Mahmud Khan, **Kevin W. Hamlen**, and Murat Kantarcioglu. Silver Lining: Enforcing Secure Information Flow at the Cloud Edge. In *Proceedings of the 2nd IEEE Conference on Cloud Engineering (IC2E)*, pp. 37–46. Boston, Massachusetts. March 2014. [acceptance rate: 18.4%]
- Yangchun Fu, Zhiqiang Lin, and **Kevin W. Hamlen**. Subverting System Authentication with Context-Aware, Reactive Virtual Machine Introspection. In *Proceedings of the 29th Annual Computer Security Applications Conference (ACSAC)*, pp. 229–238. New Orleans, Louisiana. December 2013. [acceptance rate: 19.8%]
- Richard Wartell, Yan Zhou, **Kevin W. Hamlen**, and Murat Kantarcioglu. Shingled Graph Disassembly: Finding the Undecidable Path. In *Proceedings of the 16th International Symposium on Research in Attacks, Intrusions and Defenses (RAID)*, pp. 460–462. Saint Lucia. October 2013.
- Kevin W. Hamlen**. Stealthy Software: Next-generation Cyber-attacks and Defenses, Invited Paper. In *Proceedings of the 11th IEEE Intelligence and Security Informatics Conference (ISI)*, pp. 109–112. Seattle, Washington. June 2013.
- Daniel Krawczyk, James Bartlett, Murat Kantarcioglu, **Kevin Hamlen**, and Bhavani Thuraisingham. Measuring Expertise and Bias in Cyber Security Using Cognitive and Neuroscience Approaches. In *Proceedings of the 11th IEEE Intelligence and Security Informatics Conference (ISI)*, pp. 364–367. Seattle, Washington. June 2013.
- Safwan M. Khan and **Kevin W. Hamlen**. Computation Certification as a Service in the Cloud. In *Proceedings of the 13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)*, pp. 434–441. Delft, The Netherlands. May 2013. [acceptance rate: 22.18%]
- Richard Wartell, Vishwath Mohan, **Kevin W. Hamlen**, and Zhiqiang Lin. Securing Untrusted Code via Compiler-Agnostic Binary Rewriting. In *Proceedings of the 28th Annual Computer Security Applications Conference (ACSAC)*, pp. 299–308. Orlando, Florida. December 2012. [acceptance rate: 19%] [Best Student Paper Award]
- Richard Wartell, Vishwath Mohan, **Kevin W. Hamlen**, and Zhiqiang Lin. Binary Stirring: Self-randomizing Instruction Addresses of Legacy x86 Binary Code. In *Proceedings of the 19th ACM Conference on Computer and Communications Security (CCS)*, pp. 157–168. Raleigh, North Carolina. October 2012. [acceptance rate: 19%] [NYU-Poly AT&T Best Applied Security Paper of the Year, 2nd place, 2012]

- Vishwath Mohan and **Kevin W. Hamlen**. *Frankenstein: Stitching Malware from Benign Binaries*. In *Proceedings of the 6th USENIX Workshop on Offensive Technologies (WOOT)*, pp. 77–84. Bellevue, Washington. August 2012. [acceptance rate: 40%]
- Safwan M. Khan and **Kevin W. Hamlen**. *AnonymousCloud: A Data Ownership Privacy Provider Framework in Cloud Computing*. In *Proceedings of the 11th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom)*, pp. 170–176. Liverpool, UK. June 2012. [acceptance rate: <30%]
- Safwan M. Khan and **Kevin W. Hamlen**. *Hatman: Intra-cloud Trust Management for Hadoop*. In *Proceedings of the 5th IEEE International Conference on Cloud Computing (CLOUD)*, pp. 494–501. Honolulu, Hawaii. June 2012. [acceptance rate: 19%]
- Bhavani Thuraisingham, Vaibhav Khadilkar, Jyothsna Rachapalli, Tyrone Cadenhead, Murat Kantarcioglu, **Kevin Hamlen**, Latifur Khan, and Farhan Husain. *Cloud-Centric Assured Information Sharing*. In *Proceedings of the 7th Pacific Asia Workshop on Intelligence and Security Informatics (PAISI)*. Ed. by Michael Chau, G. Alan Wang, Wei Thoo Yue, and Hsinchun Chen, pp. 1–26. Kuala Lumpur, Malaysia. May 2012.
- Kevin W. Hamlen**, Micah M. Jones, and Meera Sridhar. *Aspect-oriented Runtime Monitor Certification*. In *Proceedings of the 18th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, pp. 126–140. Tallinn, Estonia. March–April 2012. [acceptance rate: 24%]
- Pallabi Parveen, Zackary R. Weger, Bhavani Thuraisingham, **Kevin W. Hamlen**, and Latifur Khan. *Supervised Learning for Insider Threat Detection Using Stream Mining*. In *Proceedings of the 23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, pp. 1032–1039. Boca Raton, Florida. November 2011. [acceptance rate: 30%] [Best Paper Award, Special Session on Stream Data Mining]
- Pallabi Parveen, Jonathan Evans, Bhavani Thuraisingham, **Kevin W. Hamlen**, and Latifur Khan. *Insider Threat Detection using Stream Mining and Graph Mining*. In *Proceedings of the 3rd IEEE Conference on Privacy, Security, Risk and Trust (PASSAT)*, pp. 1102–1110. Boston, Massachusetts. October 2011. [acceptance rate: 8%]
- Micah Jones and **Kevin W. Hamlen**. *A Service-oriented Approach to Mobile Code Security*. In *Proceedings of the 8th International Conference on Mobile Web Information Systems (MobiWIS)*. Ed. by Elhadi Shakshuki and Muhammad Younas, pp. 531–538. Niagara Falls, Ontario. September 2011. [acceptance rate: 36%]
- Richard Wartell, Yan Zhou, **Kevin W. Hamlen**, Murat Kantarcioglu, and Bhavani Thuraisingham. *Differentiating Code from Data in x86 Binaries*. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)*. Ed. by Dimitrios Gunopulos, Thomas Hofmann, Donato Malerba, and Michalis Vazirgiannis. Vol. 3, pp. 522–536. Athens, Greece. September 2011. [acceptance rate: 20%]
- Meera Sridhar and **Kevin W. Hamlen**. *Flexible In-lined Reference Monitor Certification: Challenges and Future Directions*. In *Proceedings of the 5th ACM SIGPLAN Workshop on Programming Languages meets Program Verification (PLPV)*. Ed. by Ranjit Jhala and Wouter Swierstra, pp. 55–60. Austin, Texas. January 2011. [acceptance rate: 60%]



Arindam Khaled, Mohammad Farhan Husain, Latifur Khan, **Kevin W. Hamlen**, and Bhavani Thuraisingham. A Token-based Access Control System for RDF Data in the Clouds. In *Proceedings of the 2nd IEEE International Conference on Cloud Computing Technology and Science (CloudCom)*, pp. 104–111. Indianapolis, Indiana. November–December 2010.

[acceptance rate: <25%]

Aditi Patwardhan, **Kevin W. Hamlen**, and Kendra Cooper. Towards Security-aware Program Visualization for Analyzing In-lined Reference Monitors. In *Proceedings of the International Workshop on Visual Languages and Computing (VLC)*, pp. 257–260. Oak Brook, Illinois. October 2010. [acceptance rate: 36.5%]

Bhavani Thuraisingham and **Kevin W. Hamlen**. Challenges and Future Directions of Software Technology: Secure Software Development, Invited Paper. In *Proceedings of the 34th IEEE Annual International Computer Security and Applications Conference (COMPSAC)*. Ed. by Seikh Iqbal Ahamed, Doo-Hwan Bae, Sung Deok Cha, Carl K. Chang, Rajesh Subramanyan, Eric Wong, and Hen-I Yang, pp. 17–20. Seoul, Korea. July 2010.

Bhavani Thuraisingham and **Kevin W. Hamlen**. Secure Semantic Sensor Web and Pervasive Computing. In *Proceedings of the IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)*, pp. 5–10. Newport Beach, California. June 2010.

[acceptance rate: 25%]

Micah Jones and **Kevin W. Hamlen**. Disambiguating Aspect-oriented Security Policies. In *Proceedings of the 9th International Conference on Aspect-Oriented Software Development (AOSD)*. Ed. by Jean-Marc Jézéquel and Mario Südholt, pp. 193–204. Rennes, France. March 2010. [acceptance rate: 22%]

Meera Sridhar and **Kevin W. Hamlen**. ActionScript In-lined Reference Monitoring in Prolog. In *Proceedings of the 12th International Symposium on Practical Aspects of Declarative Languages (PADL)*. Ed. by Manuel Carro and Ricardo Peña, pp. 149–151. Madrid, Spain. January 2010.

[acceptance rate: 37.9%]

Meera Sridhar and **Kevin W. Hamlen**. Model-checking In-lined Reference Monitors. In *Proceedings of the 11th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI)*. Ed. by Gilles Barthe and Manuel V. Hermenegildo, pp. 312–327. Madrid, Spain. January 2010. [acceptance rate: 36.8%]

Brian W. DeVries, Gopal Gupta, **Kevin W. Hamlen**, Scott Moore, and Meera Sridhar. ActionScript Bytecode Verification With Co-Logic Programming. In *Proceedings of the 4th ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*. Ed. by Stephen Chong and David A. Naumann, pp. 9–15. Dublin, Ireland. June 2009. [acceptance rate: 42%]

Micah Jones and **Kevin W. Hamlen**. Enforcing IRM Security Policies: Two Case Studies. In *Proceedings of the 7th IEEE Intelligence and Security Informatics Conference (ISI)*, pp. 214–216. Dallas, Texas. June 2009.

Bhavani Thuraisingham, Latifur Khan, Mohammed M. Masud, and **Kevin W. Hamlen**. Data Mining for Security Applications. In *Proceedings of the 6th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC)*. Ed. by Cheng-Zhong Xu and Minyi Guo, pp. 585–589. Shanghai, China. December 2008. [acceptance rate: 30%]

Mohammed M. Masud, Tahseen Al-khateeb, Latifur Khan, Bhavani Thuraisingham, and **Kevin W. Hamlen**. Flow-based Identification of Botnet Traffic by Mining Multiple Log Files. In *Proceedings of the International Conference on Distributed Frameworks & Applications (DFMA)*, pp. 200–206. Penang, Malaysia. October 2008.

**Kevin W. Hamlen** and Micah Jones. Aspect-Oriented In-lined Reference Monitors. In *Proceedings of the 3rd ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*. Ed. by Úlfar Erlingsson and Marco Pistoia, pp. 11–20. Tucson, Arizona. June 2008. [acceptance rate: 54%]

Nathalie Tsybulnik, **Kevin W. Hamlen**, and Bhavani Thuraisingham. Centralized Security Labels in Decentralized P2P Networks. In *Proceedings of the 23rd Annual Computer Security Applications Conference (ACSAC)*, pp. 315–324. Miami Beach, Florida. December 2007. [acceptance rate: 20.9%]

**Kevin W. Hamlen** and Bhavani Thuraisingham. Secure Peer-to-peer Networks for Trusted Collaboration, Invited Paper. In *Proceedings of the 3rd IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (COLCOM)*, pp. 58–63. White Plains, New York. November 2007.

**Kevin W. Hamlen**, Greg Morrisett, and Fred B. Schneider. Certified In-lined Reference Monitoring on .NET. In *Proceedings of the 1st ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*. Ed. by Vugranam C. Sreedhar and Steve Zdancewic, pp. 7–16. Ottawa, Ontario. June 2006. [acceptance rate: 56%]

## Articles in refereed journals:

Meera Sridhar, Richard Wartell, and **Kevin W. Hamlen**. Hippocratic Binary Instrumentation: First Do No Harm. *Science of Computer Programming (SCP), Special Issue on Invariant Generation*, 93(B):110–124. November 2014.

Safwan Mahmud Khan and **Kevin W. Hamlen**. Penny: Secure, Decentralized Data Management. *International Journal of Network Security (IJNS)*, 16(5):340–354. September 2014.

Pallabi Parveen, Nathan McDaniel, Zackary Weger, Jonathan Evans, Bhavani Thuraisingham, **Kevin Hamlen**, and Latifur Khan. Evolving Insider Threat Detection Stream Mining Perspective. *International Journal on Artificial Intelligence Tools (IJAIT)*, 22(5):1360013. August 2013.

**Kevin W. Hamlen** and Bhavani M. Thuraisingham. Data Security Services, Solutions and Standards for Outsourcing. *Computer Standards & Interfaces*, 35(1):1–5. January 2013.

**Kevin W. Hamlen**, Lalana Kagal, and Murat Kantarcioglu. Policy Enforcement Framework for Cloud Data Management. *IEEE Data Engineering Bulletin (DEB), Special Issue on Security and Privacy in Cloud Computing*, 35(4):39–45. Ed. by David B. Lomet and Sharad Mehrotra. December 2012.

William Hamlen and **Kevin Hamlen**. An Interactive Computer Model of Two-Country Trade. *International Review of Economics Education (IREE)*, 11(2):91–101. November 2012.

**Kevin W. Hamlen** and William Hamlen. An Economic Perspective of Message-dropping Attacks in Peer-to-peer Overlays. *Intelligence and Security Informatics (ISI)*, 1(6). March 2012.



- Mohammad Mehedy Masud, Clay Woolam, Jing Gao, Latifur Khan, Jiawei Han, **Kevin W. Hamlen**, and Nikunj C. Oza. Facing the Reality of Data Stream Classification: Coping with Scarcity of Labeled Data. *Knowledge and Information Systems (KAIS)*, pp. 1–32. November 2011.
- Mohammad M. Masud, Tahseen M. Al-Khateeb, **Kevin W. Hamlen**, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani Thuraisingham. Cloud-based Malware Detection for Evolving Data Streams. *ACM Transactions on Management Information Systems (TMIS)*, 2(3). October 2011.
- Kevin W. Hamlen** and Bhavani Thuraisingham. Secure Semantic Computing. *International Journal of Semantic Computing*, 5(2):121–131. June 2011.
- Kevin W. Hamlen**, Murat Kantarcioglu, Latifur Khan, and Bhavani Thuraisingham. Security Issues for Cloud Computing. *International Journal of Information Security and Privacy (IJISP)*, 4(2):36–48. April–June 2010.
- Kevin W. Hamlen**, Vishwath Mohan, Mohammad M. Masud, Latifur Khan, and Bhavani Thuraisingham. Exploiting an Antivirus Interface. *Computer Standards & Interfaces Journal*, 31(6):1182–1189. April 2009.
- William Hamlen and **Kevin W. Hamlen**. A Closed System of Production Possibility and Social Welfare. *Computers in Higher Education Economics Review (CHEER)*, 18(1):15–18. December 2006.
- Kevin W. Hamlen**, Greg Morrisett, and Fred B. Schneider. Computability Classes for Enforcement Mechanisms. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 28(1):175–205. January 2006.

### Articles accepted by refereed journals (publication pending):

- Phu H. Phung, Maliheh Monshizadeh, Meera Sridhar, **Kevin W. Hamlen**, and V.N. Venkatakrishnan. Between Worlds: Securing Mixed JavaScript/ActionScript Multi-party Web Content. *IEEE Transactions on Dependable and Secure Computing (TDSC)*. 2014, forthcoming (in press).
- Bhavani Thuraisingham, Balakrishnan Prabhakaran, Latifur Khan, and **Kevin W. Hamlen**. A Database Inference Controller for 3D Motion Capture Databases. *International Journal of Information Security and Privacy (IJISP)*. 2012, forthcoming.

### Unrefereed articles and technical reports:

- Richard Wartell, Yan Zhou, **Kevin W. Hamlen**, and Murat Kantarcioglu. Shingled Graph Disassembly: Finding the Undecidable Path. Tech. rep. (UTDCS-12-13). Richardson, Texas: Computer Science Department, The University of Texas at Dallas, June 2013.
- Meera Sridhar, Richard Wartell, and **Kevin W. Hamlen**. Hippocratic Binary Instrumentation: First Do No Harm. Tech. rep. (UTDCS-03-13). Richardson, Texas: Computer Science Department, The University of Texas at Dallas, February 2013.
- Kevin W. Hamlen**. When Gothic Horror Gives Birth to Malware. In *The 2013 Cisco Annual Security Report*, pp. 46–47. Cisco Systems, January 2013.

Vishwath Mohan and **Kevin W. Hamlen**. *Frankenstein: A Tale of Horror and Logic Programming*. *ALP Newsletter Digest*, 25(4). Ed. by Agostino Dovier and Enrico Pontelli. December 2012.

Bhavani Thuraisingham, Vaibhav Khadilkar, Jyothsna Rachapalli, Tyrone Cadenhead, Murat Kantarcioglu, **Kevin Hamlen**, Latifur Khan, and Farhan Husain. *Towards the Design and Implementation of a Cloud-centric Assured Information Sharing System*. Tech. rep. (UTDCS-27-11). Richardson, Texas: Computer Science Department, The University of Texas at Dallas, September 2011.

**Kevin W. Hamlen**, Micah M. Jones, and Meera Sridhar. *Chekov: Aspect-oriented Runtime Monitor Certification via Model-checking*. Tech. rep. (UTDCS-16-11). Richardson, Texas: Computer Science Department, The University of Texas at Dallas, May 2011.

**Kevin W. Hamlen**, Vishwath Mohan, and Richard Wartell. *Reining in Windows API Abuses with In-lined Reference Monitors*. Tech. rep. (UTDCS-18-10). Richardson, Texas: Computer Science Department, The University of Texas at Dallas, June 2010.

**Kevin W. Hamlen**, Greg Morrisett, and Fred B. Schneider. *Certified In-lined Reference Monitoring on .NET*. Tech. rep. (TR-2005-2003). Ithaca, New York: Computer Science Department, Cornell University, November 2005.

## In the News:

*The following is an assortment of press articles covering my research.*

Brian New. North Texas Professor Setting Trap for Hackers. *CBS 11 Nightly News, Dallas/Fort Worth*. April 14, 2014.

Selena Hernandez. UTD Professor Creates Solution to ‘Heartbleed’ Bug. *CW 33 Nightcap News*. April 15, 2014.

Dallas Business Journal Staff. Tech Titans Technology Inventor Award Finalist Kevin Hamlen The University of Texas at Dallas. *Dallas Business Journal*. August 30, 2013.

Tim Cross. A Thing of Threads and Patches. *The Economist*. August 23, 2012.

Jacob Aron. Frankenstein Virus Creates Malware by Pilfering Code. *New Scientist*. August 20, 2012.

Devin Coldewey. Frankenstein Virus Could Assemble Itself from App Snippets. *NBC News Digital*. August 22, 2012.

Michael Rundle. Frankenstein Virus Could Build Itself From Safe Computer Code. *Huffington Post UK*. August 22, 2012.

Olivia Solon. Frankenstein Virus Stitches Malware Together from Pieces of Benign Code. *Wired UK*. August 21, 2012.

Bob Yirka. Researchers Create Frankenstein Malware Made Up Of Common Gadgets. *Phys.org*. August 21, 2012.

Jeff Goldman. UT Researchers Develop Frankenstein Malware. *eSecurity Planet*. August 24, 2012.

Innovation News Daily Staff. Frankenstein Computer Virus Assembles Itself. *TechNews Daily*. August 20, 2012.

Brian Prince. Frankenstein Malware Uses Safe Programs Against Users. *Security Week*. August 23, 2012.

Kimber Streams. Frankenstein: Turning Legitimate Software into Invisible Malware. *The Verge*. August 21, 2012.

Peter Suci. Cyber-Security Pros Create “Frankenstein” Monster. *Red Orbit*. August 28, 2012.

Mark Tyson. Frankenstein Malware Builds Itself with Benign Common Code. *Hexus*. August 21, 2012.

Marco Attard. Frankenstein: The Modern (Virus) Prometheus. *eSP: IT Solution Providers in Europe*. August 23, 2012.

Ian Chant. Frankenstein Virus Steals Code From Other Programs. *GeekOSystem*. August 20, 2012.

Adrian Covert. New Frankenstein Virus Can Build Itself on Any Computer From Stolen Snippets of Code. *Gizmodo*. August 21, 2012.

James Edward. Virus Frankenstein is Built With Parts of Your PC Software. *TechNews*. August 21, 2012.

Mohit Kumar. Frankenstein Malware Turning Legitimate Software Into Invisible Malware. *The Hacker News*. August 25, 2012.

Max Cacas. Texas Computer Scientist Outflanks Next-Generation Computer Viruses. *SIGNAL Online*. October 3, 2011.

## Teaching:

### Graduated Ph.D. students supervised:

2014 Vishwath Mohan: *Source-free Binary Mutation for Offense and Defense*

2014 Meera Sridhar: *Model-checking In-lined Reference Monitors*

2013 Safwan Khan: *Decentralizing Trust: New Security Paradigms for Cloud Computing*

2012 Richard Wartell: *Rewriting x86 Binaries Without Code-producer Cooperation*

2011 Sunitha Ramanujam: *Towards an Integrated Semantic Web: Interoperability Between Data Models*

2011 Micah Jones: *Declarative Aspect-oriented Security Policies for In-lined Reference Monitors*

### Graduated masters students supervised:

2013 Dhiraj V. Karamchandani: *Surveying the Landscape of ActionScript Security Trends and Threats*

2010 Aditi Patwardhan: *Security-aware Program Visualization for Analyzing In-lined Reference Monitors*

2009 Scott Moore: graduation based on coursework (non-thesis)

### Undergraduate honors theses supervised:

2009 Jonathan Cooke: *A Comparison of the Effectiveness of Denial-of-service Attacks against Structured Peer-to-peer Networks*

### Classroom teaching:

Median student evaluation: 4.75 / 5 = Excellent

| semester    | course                                | student evaluation   |
|-------------|---------------------------------------|----------------------|
| 2015 Spring | CS6371 Advanced Programming Languages | 4.89 / 5 = Excellent |
| 2014 Fall   | CS6301 Language-based Security        | 4.75 / 5 = Excellent |
| 2014 Spring | CS6371 Advanced Programming Languages | 4.92 / 5 = Excellent |

|             |                                           |                      |
|-------------|-------------------------------------------|----------------------|
| 2013 Fall   | CS6301 Language-based Security            | 4.69 / 5 = Excellent |
| 2013 Spring | CS6371 Advanced Programming Languages     | 4.92 / 5 = Excellent |
| 2012 Fall   | CS6V81 Language-based Security            | 4.83 / 5 = Excellent |
| 2012 Fall   | CS4384 Automata Theory                    | 4.80 / 5 = Excellent |
| 2012 Spring | CS6371 Advanced Programming Languages     | 4.81 / 5 = Excellent |
| 2011 Fall   | CS4384 Automata Theory                    | 4.50 / 5 = Excellent |
| 2011 Spring | CS6371 Advanced Programming Languages     | 4.19 / 5 = Very Good |
| 2011 Spring | CS7301 Language-based Security            | 4.75 / 5 = Excellent |
| 2010 Fall   | CS4384 Automata Theory                    | 4.33 / 5 = Very Good |
| 2010 Spring | CS6371 Advanced Programming Languages     | 4.58 / 5 = Excellent |
| 2009 Fall   | CS4485 Computer Science Project           | 4.50 / 5 = Excellent |
| 2009 Fall   | CS6371 Advanced Programming Languages     | 4.81 / 5 = Excellent |
| 2009 Spring | CS4485 Computer Science Project           | 4.83 / 5 = Excellent |
| 2009 Spring | CS6371 Advanced Programming Languages     | 3.22 / 5 = Good      |
| 2008 Fall   | CS6371 Advanced Programming Languages     | 4.25 / 5 = Very Good |
| 2008 Spring | CS6V81 Language-based Security            | 4.92 / 5 = Excellent |
| 2007 Fall   | CS6371 Advanced Programming Languages     | 4.08 / 5 = Very Good |
| 2007 Spring | CS7301 Seminar on Language-based Security | 4.75 / 5 = Excellent |

## Service:

### External service:

- 2015, 2013 Program Committee Member for the *13th and 11th IEEE Intelligence and Security Informatics Conferences (ISI)*
- 2015, 2014 Program Committee Member for the *International Workshop on Secure Peer-to-Peer Intelligent Networks & Systems (SPINS)*
- 2014 Program Committee Member for the *13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom)*
- 2014 Program Committee Member for the *8th International Conference on Emerging Security Information, Systems and Technologies (SECURWARE)*
- 2013 Program Chair of the *Next Generation Malware Attacks and Defenses Workshop (NGMAD)*
- 2013 Local Chair of the *16th Information Security Conference (ISC)*
- 2013 Program Committee Member for the *12th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom)*
- 2013 Program Committee Member for the *7th International Conference on Emerging Security Information, Systems and Technologies (SECURWARE)*
- 2013 Program Committee Member for the *1st International Workshop on Privacy in Semantic Technologies (PriSeT)*
- 2013 Program Committee Member for the *International Symposium on Foundation of Open Source Intelligence and Security Informatics (FOSINT-SI)*
- 2013 Program Committee Member for the *International Conference on Information Communication Technology (ICT-EurAsia)*
- 2012 Program Committee Member for the *8th International Conference on Information Systems Security (ICISS)*
- 2012 Program Committee Member for the *International Symposium on Foundation of Open Source Intelligence and Security Informatics (FOSINT-SI)*

2012 Program Committee Member for the *10th IEEE Intelligence and Security Informatics Conference (ISI)*  
2010 Program Committee Member for the *International Workshop on Visual Languages and Computing (VLC)*  
2009 General Chair and Program Committee Member for the *11th ACM International Symposium on Practical Aspects of Declarative Languages (PADL)*  
2009 Program Committee Member for the *4th ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*  
2007 Registration Chair for the *10th High Assurance Systems Engineering Symposium (HASE)*

**External reviewer for:**

2013, 2009–2007 IEEE Transactions on Dependable and Secure Computing (TDSC)  
2013, 2012, 2009–2007 ACM Transactions on Information and System Security (TISSEC)  
2013 ACM Conference on Computer and Communications Security (CCS)  
2013 Theory and Practice of Logic Programming (TLP)  
2013, 2012 IEEE Transactions on Information Forensics & Security (TIFS)  
2013, 2011 Journal of Machine Learning Research (JMLR)  
2012 Journal of Computer Engineering & Information Technology (JCEIT)  
2012 International Symposium on Foundation of Open Source Intelligence and Security Informatics (FOSINT-SI)  
2012, 2010 Air Force Research Laboratory (AFRL)  
2011, 2009 Practical Aspects of Declarative Languages (PADL)  
2010 International Journal of Information Security (IJIS)  
2010 Information Processing Letters (IPL)  
2010 Mathematical Structures in Computer Science Journal (MSCS)  
2009–2007 Science of Computer Programming  
2009 International Journal of Computer Mathematics  
2009, 2008 Encyclopedia of Computer Science and Engineering  
2008, 2007 Fundamenta Informaticae  
2008 The European Symposium on Programming (ESOP)

**University/department service:**

2012–present Information Security Committee, UTD  
2009–present TA Committee, Computer Science Department, UTD  
2006–present Computer Systems Group Committee, Computer Science Department, UTD  
2014, 2009, 2007 Outside chair for Doctoral Final Oral Exam (3 Ph.D. students)  
2006–present Faculty co-advisor for the UTD Graduate Christian Fellowship

**Dissertation/thesis committees served:**

2014 Timothy Hoffman, M.S.: *Flexible Access and Information Flow Control in Multi-domain Distributed Systems* (supervisor: I-Ling Yen)  
2014 Kyle Marple, Ph.D.: *Goal-directed Answer Set Programming* (supervisor: Gopal Gupta)  
2012 Wei-Che Tseng, Ph.D.: *Memory Architecture, Management, and Scheduling for Embedded Systems* (supervisor: Edwin Sha)



- 2011 Mohammad Farhan Husain, Ph.D.: *Data Intensive Query Processing for Semantic Web using Hadoop and MapReduce* (supervisor: Latifur Khan)
- 2011 Neda Saeedloei, Ph.D.: *Modeling and Verification of Real-time and Cyber-physical Systems* (supervisor: Gopal Gupta)
- 2010 Raymon L. Novales, Ph.D.: *Symmetric Key Pre-distribution for Resource-constrained Wireless Networks* (supervisor: Neeraj Mittal)
- 2010 Jeffrey Koch, Ph.D.: *AOVis: Reverse Engineering and Visualization of AspectJ/Java Source Code* (supervisor: Kendra Cooper)
- 2009 Mohammad Mehedy Masud, Ph.D.: *Adaptive Classification of Scarcely Labeled and Evolving Data Streams* (supervisor: Latifur Khan)
- 2007 Parag Doshi, M.S.: *General Strategies for Buffer Overflow Attack Proofing* (supervisor: Gopal Gupta)
- 2007 Srividya Kona, Ph.D.: *Semantics-based Web Service Discovery and Composition* (supervisor: Gopal Gupta)
- 2007 Ajay Bansal, Ph.D.: *Next Generation Logic Programming Systems* (supervisor: Gopal Gupta)